CLAIMS

What is claimed is:

1. A keyboard video mouse (KVM) switch for a plurality of local and remote computers to share a plurality of local manipulating devices, the KVM switch comprising:

a plurality of first interfaces, which connect to the local manipulating devices to receive a plurality of local electrical signals;

a plurality of second interfaces, which connect to the local computers;

a packet encoding device, which generates at least one network packet having a plurality of data sections correspondingly storing the local electrical signals received by the first interfaces according to the local electrical signals;

a network device, which communicates with the network device of another KVM switch using a network protocol in order to transmit the network packet and to receive the network packet transmitted from said another KVM switch;

a packet decoding device, which obtains at least one remote electrical signal from the network packet of said another KVM switch; and

a switch device, which transmits the local and remote electrical signals to the second interfaces and the packet encoding device according to a path selection setting.

2. The KVM switch of claim 1, wherein the network packet has a network overhead section.

3. The KVM switch of claim 1, wherein each of the local electrical signals contains a keyboard signal and a mouse signal.

4. The KVM switch of claim 1, wherein the network device contains:

a network interface chip (NIC), which connects to the packet encoding device and the packet decoding device; and

a network switch, which has a first port, a second port, and a third port; wherein the first port connects to the NIC, and one of the second port and the third port connects to said another KVM switch.

5. The KVM switch of claim 1, wherein the network device contains a 2-way switch connecting to the second port for switching between an Ethernet and said another KVM switch.

6. The KVM switch of claim 1, wherein the first interfaces contain a plurality of universal asynchronous receivers/transmitters (UART's) and a half-duplex communication processor.

7. The KVM switch of claim 1, wherein the second interfaces contain a plurality of UART's and a half-duplex communication processor.

8. The KVM switch of claim 1, wherein the packet encoding device contains a central processing unit (CPU).

9. The KVM switch of claim 1, wherein the packet decoding device contains a CPU.

10. The KVM switch of claim 1, wherein the switch device contains a CPU.

11. A computer switching method for a plurality of local and remote computers to share a plurality of local manipulating devices, the method comprising the steps of:

receiving a plurality of local electrical signals transmitted from the local manipulating devices;

distributing the local electrical signals in such a way that when the path

destinations of the local electrical signals are the local computers, the local electrical signals are transmitted to the local computers while when the path destinations of the local electrical signals are the remote computers, at least one network packet having a plurality of data sections correspondingly storing the local electrical signals is generated;

establishing communications among the KVM switches using a network protocol in order to transmit the network packet to other KVM switches connected to the remote computers and to receive the network packet transmitted from another KVM switch;

obtaining at least one remote electrical signal from the network packet transmitted from said another KVM switch; and

transmitting the remote electrical signals to the local computers of their destinations.

12. The method of claim 11, wherein the network packet has a network overhead section.

13. The method of claim 11, wherein each of the local electrical signals contains a keyboard signal and a mouse signal.

14. The method of claim 11, wherein the local electrical signals are encoded inside the same network packet when the path destinations of the local electrical signals are the remote computers connected to the same KVM switch.

15. The method of claim 11, wherein the communication among the KVM switches is achieved using a network interface chip (NIC) and a network switch configured for each KVM switch.

16. The method of claim 11, wherein the local electrical signals are received using a plurality of UART's and a half-duplex communication processor.

17. The method of claim 11, wherein the network packet uses a CPU to perform

encoding and decoding.

18. The method of claim 11, wherein the paths of the local and remote electrical signals are switched by a CPU according to a path selection setting.